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ABSTRACT

This paper presents a structural-developmental model of social cognition and discusses the implications of this approach for social intervention research. This model of social development is concerned with social reasoning and judgment. The basic assumption of this model of social cognition is that the structure of social reasoning develops through an invariant sequence of 4 stages: (1) the "egocentric level," at which a child assumes that others feel or act as he does in similar situations, (2) the "subjective level," at which a child recognizes that others' thoughts, feelings, and intentions are distinct from his own, (3) the "self-reflective level," in which the child becomes aware that perspectives of self and others exist reciprocally, and (4) the "third person perspective level," at which a person, in a dyad, is aware of each other's subjectivity. These levels of perspective-taking are considered necessary, but not sufficient for parallel stages of interpersonal reasoning. Examples of this relationship, based on childhood friendship concepts, are provided. A hierarchical model of social cognition as it relates to interpersonal and moral stage theories is developed. Implications for social cognition intervention programs, derived from a study comparing the cognitive development, perspective-taking, and interpersonal and moral reasoning of 24 boys between the ages of 7 and 12 from special classes with that of a matched normal group of boys were discussed. (BRT)

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A structural-developmental model of social cognition;
implications for intervention research

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Part 1: Basic assumptions in social-cognitive research

Although the study of social cognition is relatively new to the field of developmental research, it has already begun to have an impact on the thinking of educators and interventionists. It is my impression that such interest has generated some misunderstandings of the claims for intervention and education that can be made from a structural-developmental approach. Proponents, psychologists and educators alike, interpret the evidence for invariant stage sequences in social development as a call for the immediate elevation of all humanity to the next higher stage. Opponents point to psychological phenomena to which the developmental approaches do not directly speak, and because the structural or cognitive-developmental model does not explain everything, they assume it really cannot explain anything.

It is my intention in this introductory statement to present a model of social cognition which might help to clarify what the structural-developmental approach does imply for social intervention research and application, and what it does not.

The structural-developmental approach to social development is concerned with social reasoning and judgment; with how children reason about social phenomena, not just what they reason. The how of social reasoning is called structure, what is reasoned about, content--thus, the term structural-developmental stresses the how, i.e., stresses the developing process of reasoning.

The basic assumption of this approach is that the structure of social reasoning develops through an invariant sequence of stages; each stage is qualitatively distinct from the previous stage, but hierarchically related to the prior stage insofar as it is based upon the reorganization of the ideas or concepts of prior stage into more adequate and inclusive concepts and ideas.

In addition, this approach is interested in the developmental relations among various domains of reasoning; reasoning about logico-mathematical experiences, about the experience of the physical world, as well as about the experience of the social domain. Research in each of these areas has generated stage descriptions and it is assumed that there are structural similarities across each of the developmental stages among the domains. By "structural similarity" I simply mean that certain patterns of thinking appear to be common across the disparate "content" areas.

This assumption generates a basic developmental question. If a child is functioning at a certain stage in one domain, what can this tell us about his stage of reasoning in the next? Does stage theory imply strict uniformity of thought about all reality at a given point in development? Of course not. A child's stage performance at any given time is as much a function of what he is reasoning about (the context) as of his general cognitive capability. Conceptually, however, there do appear to be similarities in stages across various domains.

Given some recent empirical evidence of structural relations across social and physical cognitive stages, a controversy rages as to whether one can reduce social to logico-physical thinking. Although there are basic similarities there are also basic distinctions between stages of physical and of social cognition; most saliently, the latter involve the process of social perspective-taking. Humans as objects of thought have subjective perspectives, balls of clay and beakers of water do not. To cognize persons in social relations requires an understanding of the subjective characteristics of active interacting humans, a process of knowing much different from the knowing of the relatively passive, impersonal world.

In keeping with the structural-developmental approach, our research has been focused on developmental levels in the child's form of understanding of the relation of his perspective to the perspective of other, a process we call social perspective-taking; a process G. H. Mead claimed to be the core of

human intelligence (1934). Using both social games and social and moral dilemmas, we have developed procedures to observe or infer the developmental progress of this process. Between early childhood and preadolescence, we have identified four such levels (Selman & Byrne, 1974).

At the egocentric level (0), although the child can separate the attitudes or viewpoints of self and other (you like carrots, I don't), he assumes unreflectively that in similar contexts, others will feel or act as he would in that situation. At level 1, the subjective level, there comes a clear recognition that the self's perspective is separate from other's and is thus unique; other's subjectivity, his thoughts, feelings, and intentions, are distinct from those of the self. At level 2, the self-reflective level, the child becomes aware that the perspectives of self and other are seen to exist in a state of reciprocal influence - the child recognizes that his own subjective judgments are open to the scrutiny and evaluation of others, and his conception of other persons is reconstructed to fit the new realization that others can view the self as a subject. At level 3, the third person perspective level, the pre-adolescent is able to hypothetically step outside of the dyadic relation and becomes aware from this third person view that persons can simultaneously be aware of each other's subjectivity - of each other's mutuality. Higher levels may occur in adolescence and adulthood.

Although we believe the levels of social cognition we have described are real, it is also obvious that they are also formalistic in the sense that they lack psychological content. The very fact that it may be easy to recognize the logic behind the claim of universality of the developmental sequence of social perspective taking levels also puts constraints on their implications for social psychological development. This is a very real problem, particularly for intervention or clinical practice. If descriptions are too structural, they present a universal but very skeletal description of

social development, particularly of the individual child. On the other hand, if stage descriptions are too broadly based on content, they may paint a rich picture of some but not all children. Perspective taking levels are skeletal structures in search of some content to which they can be applied. Conversely, the emergence of these levels is always in part a function of the content to which they are applied. We always infer these levels within a social context; that context may be social problem solving, communication skills, interpersonal relations, moral reasoning, etc. In the real world these developing skills intersect with one another; for theoretical purposes however it is useful to explore the role of perspective taking in each area separately and in relation to one another. And although we claim the order of emergence of the perspective-taking levels is invariant, it appears that the age of functional emergence of a given level will vary to a certain degree as a function of the context within which it is applied or the mode of assessment.

In our own work we have examined the role of perspective taking in two domains, moral reasoning (Selman & Damon, 1975; Selman, in press) and reasoning about various types of interpersonal relationships, e.g., peer relations, parent-child relations, group relations, etc. (Selman, 1975; Selman, in press).

Our basic working hypothesis is that, logically or conceptually, each level of perspective-taking is necessary but not sufficient for each structurally parallel stage of interpersonal or moral reasoning. We believe that a stage of interpersonal or moral reasoning implies a specific level of perspective-taking but that a specific level of perspective-taking does not necessarily imply the structurally parallel interpersonal or moral stage, i.e., the child may have a perspective-taking level in one area but not see or seek to use it in another.

To exemplify and concretize this point, I will draw upon some evidence from our descriptive research into the development of stages of interpersonal role relationships, in this case the structure of developing friendship concepts. To study this area of social development in childhood and preadolescence we present children with commonplace and familiar interpersonal dilemmas depicted on audio-visual filmstrips of eight to ten minutes duration. Each dilemma is oriented toward issues revolving around a particular role-relationship - peers, siblings, groups, parent-child, etc. For example, in one dilemma, a young girl, Kathy, has been asked by a new girl in town, Jeanette, to go to the circus with her the next afternoon. Unfortunately this conflicts with a long standing date with a longtime friend, Debby, to play in the park. To complicate matters Debbie, the old friend, does not like Jeanette, the new girl. Following the presentation of the dilemma, we ask questions to which the child, in responding, must apply his or her friendship concepts. For example, we are interested in conceptions of how friendships are formed, how they are maintained, and what factors cause the breakup of friendships. We find that each level of perspective-taking, as a structural process, helps us to understand each of the stages in the developing conceptions of interpersonal role relationships.

At level 1 perspective-taking, although the child can construct a picture of self and other as unique subjects, he does not view the reciprocity of persons as a concern for each other's particular view. Hence, at stage 1 of interpersonal concept, he or she sees friendship predominantly from the perspective of only one of the parties, not both. Relations are based more on whether the actions of one party please the person whose perspective the child is taking, rather than focusing on the underlying intentions. According to the child reasoning at Stage 1, if Kathy's act of going to the circus with Jeanette is viewed with displeasure by Debby, this is sufficient to end the friendship.

At level 2 perspective-taking we noted an awareness of the reciprocity of subjective viewpoints - an awareness that other's perspective is inclusive of the self's. At stage 2, interpersonal relationships are still determined by the particular social event, rather than the social act being based on the strength of the relationship. However, there is now an awareness of the need to consider both party's perspectives in a reciprocal tradeoff. If she cares about keeping Debbie's friendship, Kathy has to weigh both how she will feel and how Debbie will feel. If either party is unhappy with an event, the friendship is over. Fortunately, friendships can be reconstituted at stage 2 as quickly as they are dissolved, friendships are specific to the immediate context.

The formal characteristics of level 3 perspective taking involve the ability to stand outside of the dyad and view it as a mutually interacting system. At stage 3 of interpersonal relation concepts, the relationship (friendship) determines the act and not the reverse as at the previous stage. Friendship is seen as based on mutuality or common interest built up over time, not simply the reciprocity of the here and now as at stage 2. There is a shift from friendship as cooperation for self interest to collaboration for mutual interest. Our claim is that the third person perspective is a basic understanding which underlies this particular restructuring of friendship concepts.

Psychologically, the claim that a given level of perspective taking (A) is necessary but not sufficient for a parallel interpersonal stage (B) means that there can exist in reality only three of four theoretically possible relations between the two. At any given stage there can be subjects without the given level for either perspective taking or interpersonal reasoning ($\bar{A} \cdot \bar{B}$); There can be subjects with that structure for both perspective-taking and interpersonal reasoning ($A \cdot B$), or there can be subjects with the perspective-taking level but not the interpersonal level ($A \cdot \bar{B}$). But the model claims there can be no subject at a given interpersonal stage who does not also have the parallel perspective-taking level ($\bar{A} \cdot B$); hence logical implication.

It must be stressed that logical implication is not the same as psychological causation. A given level of perspective-taking does not cause an interpersonal stage, but is merely prerequisite to it. In practice, this logically prerequisite perspective taking level may be only requisite, that is, it may develop synchronously as a function of the same conditions that stimulate development in interpersonal reasoning. To reiterate, we are simply claiming that a level of perspective taking is logically a deep structure which underlies the more surface structure of interpersonal or moral stages; it may develop before or with interpersonal or moral reasoning but it cannot develop after.

Part 2. A hierarchical model of social cognition

This model can be expanded to consider the place of perspective-taking in relation on the one hand to logico-mathematical stages as described by Piaget, and on the other to socio-moral stages as described by Kohlberg, Damon, myself, and other researchers. Figure 1 presents a model of the hierarchical relation among these domains of social and physical cognition. Keeping in mind that this model represents a logical, not psychological, hierarchy, there are two points which can be made. First, the terms structure and content as we defined them earlier in this paper are relative terms. Each perspective-taking level is a content in relation to each of the general Piagetian stages, but a structure in relation to interpersonal and moral stages. Interpersonal and moral stages in turn are the content of perspective-taking levels but the structures of more differentiated concepts at the third order of analysis. In other words, interpersonal and moral stages are more content based than perspective-taking which in turn is more content bound than general formalistic Piagetian logico-mathematical stages. It is in this sense that we speak of structures as being deep or surface. Note that according to this model, whereas both physical and social cognition have basic logico-mathematical structures, e.g., reciprocity, negation, inversion, etc., one domain is not reducible to the other.

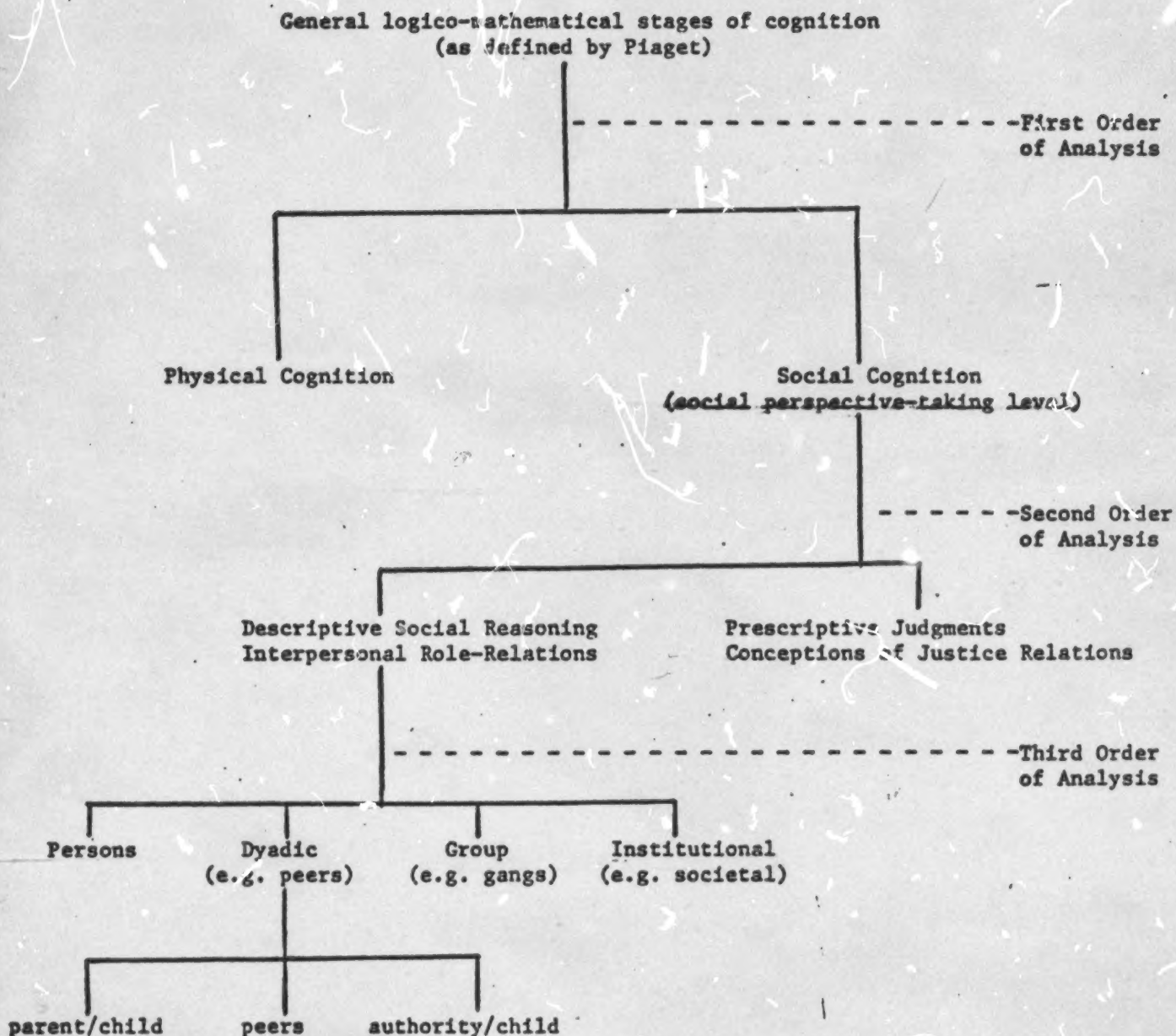


Figure 1. Relations among domains of physical and social cognition

In other words, this model implies that the logical structures are not necessarily developed in one area (the physical) and applied to the other (the social). More likely is that they are developed independently in each domain or that there is interplay in the development of the structures between domains. While most researchers have found that logical structures first appear in the physical and later in the social domain, it is conceivable that under certain circumstances, the opposite might obtain. Logical operations might appear to develop earlier when dealing with physical objects than with human subjects because of the greater practice with objects, the less emotional arousal involved in dealing with objects, or the greater consistency of the object world, not to mention the possibility of methodological artifacts. There may be less difficulty in the structuralization of the content of the physical domain. However, certain cases can be imagined in which the operation is developed in social interactions earlier than in physical: e.g., where emotional arousal is great in the physical domain (repeated learning failures in school), in groups or cultures where social interaction is heavily stressed and there is little opportunity for practice with physical objects, or in specific cases of deprivation or manipulation with regard to the physical environment.

There are two related sets of implications of this model for intervention, implications which not only come from the theoretical model but also receive some support from a recently completed comparative study of logico-physical, perspective-taking, interpersonal, and moral reasoning in socially well adjusted and poorly adjusted preadolescents (Selman, in preparation). The poorly adjusted or clinic group in the study was defined by referral to special classes for children with both learning and interpersonal difficulties but with no obvious or known organic difficulties. Twenty-four boys between the ages of 7 and 12 comprised this

sample and they were compared to a relatively well functioning sample of peers (matched for age, sex, race, I.Q., and S.E.S.) on a range of social and logico-physical reasoning measures.

Keeping our model in mind, the first set of implications comes from our comparison of levels of logico-physical and social reasoning for the clinic and normal group. Whereas the well adjusted group performed at roughly parallel stages across the four domains, the clinic group performed at increasingly lower levels as one progressed from the deeper structural concepts (logico-physical and perspective-taking) to the more surface structure or content bound domains (interpersonal and moral). In other words, using the model, that the clinic group, in general, had the same cognitive (logico-physical) performance, were slightly behind in their perspective taking capabilities in comparison to the matched group, but they were not applying these more basic capabilities in the domains of interpersonal and moral reasoning. For this kind of population, the aim of intervention may be to raise the child's interpersonal reasoning up to the level of his more basic cognitive and social-cognitive functioning.

Unfortunately, many proponents of the structural-developmental approach have interpreted this type of data, combined with the necessary but not sufficient model, as indicating that if a child does not give evidence of a prerequisite level on the deeper structures (logico-mathematical or perspective-taking), intervention aimed at the more surface structures of interpersonal or moral stage will be a waste of time. This misconception arises from the confusion of logical necessity and psychological causality.

Perspective-taking does not develop magically in a vacuum devoid of social experience. As we stressed previously, parallel levels of perspective-taking and interpersonal reasoning can develop synchronously ($A \cdot B$, $A \cdot \bar{B}$, $\bar{A} \cdot \bar{B}$). In fact, it is likely that through interpersonal and/or moral experiences or interventions (which by the way are not necessarily mutually exclusive) the development of the deeper structural domains of perspective-taking or logical thought is stimulated. Certainly this is an interesting area open to research.

Having said this, confidence that such intervention is worthwhile requires some assurance of a relation of developing conceptions of social relationships to actual social relations. In the study reported above, we found that although as a group the clinical population was functioning at lower levels of interpersonal and moral reasoning than their peers, this was not true of every child in this group. The data show that whereas the matched sample of normal children did normally or better on the social cognitive measures, disturbed children did everywhere from very poorly to very well. Some very interpersonally disturbed children did very well on all of our interpersonal and moral concept measures.

However, if a child was at an extremely low level of interpersonal reasoning, chances were extremely high that he would be a child in the clinic group. Or, to paraphrase an old adage, a (socially) wise child can behave like a fool, but a fool cannot reason like a wise child. Children with average or adequate level of social cognition for their age may act maturely or immaturely; we cannot reliably predict which. However, children who do lag far behind their peers in social cognitive stage also appear to have difficulty relating to peers.

The second implication, then, is that average or adequate interpersonal or social cognitive reasoning is necessary but not sufficient for adequate interpersonal relating. This does not mean that low levels of interpersonal conception cause poor social behavior, but that they are closely associated to behavioral difficulties in a way that is different from the relation of average or adequate social reasoning to social relations, i.e., extremely low levels of reasoning may have a certain limiting effect on maturity of social behavior. Of course, this model also implies, in its strictest interpretation, that by improving behavior one must also improve reasoning.

In sum, the implications of these findings in conjunction with the model we have put forth are as follows: 1) It is probably easier to educationally stimulate change in the more content bound domains such as interpersonal or moral reasoning than in the relatively deeper structural domains of logical and perspective-taking. 2) For normal children who function adequately, social cognitive education may have the effect of strengthening the deeper structures (perspective-taking) through stimulation of a wide range of skills which are based on this process and in so doing, prepare the groundwork of general structural movement to the next stage. However, for children who lag behind in domains such as interpersonal or moral reasoning, but who have adequate perspective-taking abilities intervention may be construed as the application of perspective-taking to these more applied skills. 3) Finally, even if social-cognitive training is important, it is not everything; although it is a critical step, raising the level of social cognition does not guarantee concomitant change in behavior. For we know from our research that even when interpersonal reasoning is at age normative levels, interpersonal relating may still be immature. Intervention research can help to clarify not only the relations among social and cognitive domains, but also between reasoning and relating.

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